



The primary operational TBI component of the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury

# Brainwaves

DVBIC Brainwaves | Winter 2009

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## Message from

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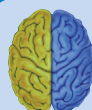
Brain Injury Awareness Month is a time to recognize the wonders of the brain and the work of many to ensure that Service Members (SMs), Veterans and

their Families benefit from the highest quality care, education and research. This issue highlights some of these efforts.

As 2008 came to a close, DVBIC was fortunate to receive important validation of our initiatives from both domestic and international sources. The Institute of Medicine (IOM) December 2008 report on long-term consequences of TBI presented recommendations to the Department of Defense, including the use of two DVBIC-developed TBI screening tools: the Military Acute Concussion Evaluation (MACE) for in-theater screening and the Brief TBI Screen (BTBIS) for post-deployment screening. The IOM also recommended the use of pre-deployment neurocognitive testing (of which DVBIC is the lead organization for objective clinical evaluations and operations). Furthermore, the report emphasized the importance of research initiatives, noting a congressionally mandated longitudinal study of blast TBI, for which DVBIC serves as executive agent.

On the international front, DVBIC was privileged to have two members selected to serve on the three-person US delegation to the North Atlantic Treaty Organization (NATO) exploratory team on mild TBI (concussion). At the meeting, it was an honor to learn how some of our NATO allies had already adapted the DVBIC deployed mild TBI guidelines and the MACE for use in their military and to discuss development of NATO standards for management of concussion.

DVBIC continues to learn as we treat, bringing evidence-based care and education to those in need. As we enter the bicentennial year of the birth of Abraham Lincoln, let us hope that in 2009 we can continue to live by his words: "let us, to the end, dare to do our duty."



## MARCH is Brain Injury Awareness Month

**Individuals who learn about symptoms and coping strategies within one week of sustaining a concussion report fewer symptoms and reduced anxiety.\***

This month, DVBIC's Education Coordinators will engage in special TBI outreach activities, such as radio interviews, lectures, programs in local schools and exhibits in the communities we serve.

\* Ponsford J., Willmott C., Rothwell A., Cameron P., Kelly A.M., Nelms R., et al. (2002). Impact of early intervention on outcome following mild head injury in adults. *Journal of Neurology, Neurosurgery, and Psychiatry*, 73, 330-332.

## Multi-Agency Collaboration on ICD-9 Codes to Strengthen TBI Data

In January 2003, DVBIC began collecting surveillance information on traumatic brain injuries (TBIs) sustained by Service Members (SMs) in Operation Enduring Freedom (OEF)/Operation Iraqi Freedom (OIF). The International Classification of Diseases (ICD) is the standard system of medical coding used by all medical institutions. Therefore, TBI cases were identified using both ICD-9 codes and individual patient encounters with clinicians throughout the DVBIC clinical network.

The Department of Defense (DoD) Office of the Assistant Secretary of Defense for Health Affairs recognized DVBIC's efforts. In October 2007, they directed that DVBIC serve as the DoD office of responsibility for TBI surveillance data from all service branches. In response, DVBIC convened a multi-agency workgroup to 1) review the ICD-9 codes being used at that time to identify TBI cases and 2) recommend changes or refinements in the use of the codes so that all cases of TBI would be captured, creating an improved automated surveillance system.

Participants in the workgroup included: Army Office of The Surgeon General, Bureau of Medicine and Surgery (US Navy

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## DVBIC Regional Care Coordination

After a traumatic brain injury (TBI), Service Members (SMs) may experience issues related to memory, organization, behavior, social skills or lack of self awareness, which may in turn lead to missed appointments or potential early discontinuation of healthcare services. Issues are most likely to occur during times of transition, such as shifting from inpatient to outpatient, changing facilities or moving to a new geographic area.

Recognizing this area of need, DVBIC created the Regional Care Coordination (RCC) Program in November 2007.

### Mission

The RCC Program identifies, tracks and follows SMs and Veterans from OEF/OIF who have — or are suspected to have — sustained a TBI. [Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) refer to conflicts in Afghanistan and Iraq, respectively.]

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## DVBIC Research Compares Methods for Brain Injury Rehab

**[Trial compares methods for brain injury rehab. (2009, January). VA Research Currents: Research News from the US Dept. of Veterans Affairs, 1-3. Excerpted with permission.]**

Researchers from the Defense and Veterans Brain Injury Center (DVBIC) have published the results of one of the first studies of its kind: a randomized clinical trial comparing different treatment approaches for those with traumatic brain injury (TBI).

The study appeared in the December issue of the *Archives of Physical Medicine and Rehabilitation*. It compared two rehabilitation approaches: "cognitive didactic" versus "functional-experiential." While the findings suggest pluses to both methods, the cognitive approach resulted in better short-term gains in mental function and was more effective in helping younger patients return to work or school. The functional method led to higher rates of independent living among

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**A traumatic brain injury (TBI)** is caused by a blow/jolt to the head or penetrating head injury that disrupts the normal function of the brain. Not all blows/jolts to the head result in a TBI. TBI severity may range from **mild** (a brief change in mental status or consciousness) to **severe** (an extended period of unconsciousness or amnesia after injury). The terms **concussion** and **mild TBI** are interchangeable.



## DVBIC Regional Care Coordination ...con't. from page 1

The RCC program also provides support, education and connection to TBI-specific services for Wounded Warriors and their Families as they recover from TBI and return to Active Duty or re-integrate back into civilian communities.

### Program Scope

There are currently 13 separate regions in the US, each covered by a local Regional Care Coordinator (RCC) who is charged with the following responsibilities:

- Provide follow-up to Warriors and their Families at 3, 6, 12 and 24 month intervals.
- Serve as an expert about regional TBI-related services within the Department of Defense (DoD), Department of Veterans Affairs (VA) and civilian healthcare systems to assist the SM/Veteran in achieving the best possible recovery from injury.
- Understand the complex DOD and VA healthcare networks and travel throughout their region, collaborating with local Brain Injury Associations and networks. RCCs may perform site visits to civilian rehabilitation

and treatment providers to maintain current, accurate information on services offered, staffing, accreditation, insurance reimbursement, etc. This enables RCCs to make appropriate connections for the individuals they follow.

### Process

All Service Members evacuated from theater through Landstuhl Regional Medical Center (LRMC) are screened for TBI with the assistance of our LRMC DVBIC site. SMs who screen positive are sent to approved TBI sites for clinical evaluation. Data is automatically entered into the Care Coordination System (a secure web-based system), to assign each individual to an RCC, who then ensures that proper screening and follow-up occur and that these patients receive services and assistance for any difficulties they may have.

Service Members and Veterans who were not evacuated from theater or who were evacuated prior to the RCC program's creation in November 2007 may request eligibility information by contacting [info@DVBIC.org](mailto:info@DVBIC.org).

## Multi-Agency Collaboration on ICD-9 Codes to Strengthen TBI Data

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and Marine Corps), Air Force Office of the Surgeon General, Armed Forces Health Surveillance Center, Centers for Disease Control and Prevention, Center for Health Promotion and Preventive Medicine, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, Force Health Protection and Readiness, TRICARE Management Activity and civilian healthcare providers.

The workgroup clarified case definitions for the surveillance of TBI and categorized the ICD-9 codes used for TBI by severity (mild, moderate, severe, penetrating and unknown).

The new case definitions were published in the October 2008 *Medical Surveillance Monthly Report*.<sup>\*</sup> The most significant changes are:

- Elimination of ICD-9-CM code: 802 – Fracture of Face Bones
- Implementation of the following ICD-9-CM codes:  
V15.5 – History of Injury  
310.2 – Post-concussion Syndrome  
950.1 – Injury to Optic Chiasm  
950.2 – Injury to Optic Pathways  
950.3 – Injury to Visual Cortex

New TBI case definitions are expected to increase the accuracy of DoD TBI cases under surveillance.

DVBIC has been working with Department of Veterans Affairs (VA) leaders in a DoD/VA collaborative initiative to revise the ICD coding system itself, to better reflect the clinical challenges of TBI.

**DVBIC wishes to express special appreciation to all members of the workgroup.**

<sup>\*</sup>New surveillance case definitions for traumatic brain injury (TBI). *Medical Surveillance Monthly Report*, 15(8), 24-25.



## DVBIC Research Compares Methods for Brain Injury Rehab ...con't. from page 1

older patients. Both methods had been validated in prior research but had never been tested head-to-head....

The study included 360 veterans or active-duty troops, mostly men, with moderate to severe TBI. Enrollment for the study ran from 1996 to May 2003, shortly before the onset of the war in Iraq. As such, most of the participants sustained their injuries not in combat but in vehicle crashes, falls or other incidents.

Meanwhile, though, TBI has come to be known as the "signature injury" of the wars in Iraq and Afghanistan, affecting... 20 percent of injured troops. So the results of the DVBIC study are highly relevant for Department of Defense and VA [Department of Veterans Affairs], although there may be ways in which TBI caused by blasts — the most common scenario in the current wars — differs from brain injuries sustained otherwise.

The trial was conducted at VA's four main polytrauma centers, in Tampa, Richmond, Palo Alto and Minneapolis. Patients, all in the acute phase of rehabilitation, were randomly assigned to one of two approaches:

- In the cognitive-didactic approach, the emphasis was on helping study participants relearn thinking skills.

- In the functional-experiential approach, the focus was on giving participants hands-on practice doing everyday tasks....

• Overall function was similar between the two groups after one year. For example, in the cognitive study arm, 65 out of 167 participants (38.9 percent) were working or in school. In the functional group, the rate was 68 out of 164 (35.4 percent). The difference was not statistically significant.... [Follow-up data were not available for 29 of the 360 study participants.]

• Immediate post-treatment cognitive function was better in the cognitive group. This was measured with tests in areas such as comprehension, expression, social interaction, problem solving and memory. Cognitive-arm participants also reported fewer memory problems after one year.

• Younger patients (those age 30 or under) in the cognitive arm had a higher rate of return to work or school than their age peers in the functional arm. On the other hand, older patients and those with more years of education in the functional arm were more likely to be living independently at one year than similar participants in the cognitive group....

NOTE: DVBIC's network of 16 sites includes clinicians and investigators from DoD, VA, and academic and private medical centers.

## DVBIC Research Articles Published on Military TBI

DVBIC researchers published eight articles in the *Journal of Head Trauma Rehabilitation* January/February special edition devoted to traumatic

brain injury (TBI) in the military. Knowledge and experience gained from treating Wounded Warriors may benefit the general population as well.

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